

13. (New) A process for producing a cutting die having a metal base which carries a sharpened ridge extending along a predetermined path thereon, said ridge being of a composition distinct from said base, comprising the steps of:

- N.E.
- a) moving a laser beam along said path to heat the base metal and simultaneously supplying powdered metal having a composition distinct from said base to said predetermined path via a tube moving concurrently with said laser beam so that said laser beam surface melts a thin layer of the metal base along said path and also melts the metal powder being delivered to the base and thus forms a band of fused metal powder along said path,
 - b) repeating steps a) so as to heat and melt a thin layer of the previously deposited metal along with additional metal powder to form an additional layer metallurgically bonded to the first layer, and
 - c) repeating step b) to produce multiple layers until a ridge of metal is formed along said path, said ridge having a substantially uniform height and width, and
 - d) sharpening the ridge so formed to suit it for use in cutting.

14. (New) A process according to claim 13, wherein the metal base is cylindrical, the process including rotating the base to provide one component of relative motion between said base and said laser beam.

15. (New) A process according to claim 13, wherein after said sharpening step, said ridge is heat treated using heat from said laser beam.

16. (New) A process for producing a cutting die having a metal base which carries a sharpened ridge extending along a predetermined path thereon, said ridge being of a composition distinct from said base, comprising the steps of:

- N.E.
- a) moving a laser beam along said path to heat the base metal and simultaneously supplying powdered metal having a composition distinct from said base to said predetermined path via a tube moving concurrently with said laser beam so that said laser beam surface melts a thin layer of the metal base along said path and also melts the metal powder being delivered to the base and thus forms a band of fused metal powder along said path,
 - b) repeating steps a) so as to heat and melt a thin layer of the previously deposited metal along with additional metal powder to form an additional layer metallurgically bonded to the first layer, and
 - c) repeating step b) to produce multiple layers until a ridge of metal is formed along said path, and
 - d) sharpening the ridge so formed to suit it for use in cutting.

17. (New) A process for forming a cutting die comprising the steps of:

cladding a blade material onto a die surface of a material different than said blade material to form a blade extending outwardly from said surface, said cladding step including the steps of heating an area of said die surface, and introducing blade material into the heated area and building a blade of said different blade material outwardly from said surface; and
shaping the cladded blade.

18. (New) A process for forming a cutting die comprising the steps of:

cladding a blade material onto a die surface to form a blade extending outwardly from said surface, said cladding step including the steps of heating an area of said die surface, and introducing blade material into the heated area in at least two layers and building a blade of said material outwardly from said surface; and
shaping the cladded blade.

19. (New) The process of claim 18, wherein the die surface is made of a material different than the blade material clad thereon.

REMARKS

New claims 13-15 are copied verbatim from U.S. Patent No. 5,855,149 granted January 5, 1999 to Islam et al. and assigned at issue to National Research Council of Canada.

Claim 16 substantially corresponds to claims of that patent. Claims 13-15 correspond to Islam's claims 1, 2 and 4, respectively. Claim 16 corresponds substantially at least to Islam's claim 1.